

Abstract:

Title: Comparison of Protaper, Medin and RaCe rotary files breaking time in vitro study with RC-prep Lubricant and Sodium Hypochlorite Washing.

Introduction: Root canal instrumentation is an important phase in root canal therapy. Since success in endodontic treatment depends on file defect and fracture, the purpose of this study is Compare of Protaper, Medin and RaCe rotary files breaking time in vitro study with Hypochlorite Lubricant and RC-prep washing.

Materials & Methods: In this experimental study, first and second molar teeth, up and down humans with apex closure and channel curvature of less than 30 in three ProTaper groups (30 with hypochlorite washing and 30 with RC-prep) and 60 medin files were selected and examined. Data were analyzed by SPSS software version 22 using independent t-test and one way analysis of variance.

Results: The results of this study showed that the average RaCe Rotary File Failure time is higher than Medin and Protaper Rotary Files in washing Hypochlorite; But in case of hypochlorite washing, there was no significant difference in the failure of Protaper Rotary files with Medin and RaCe with Medin and Protaper with RaCe; But when washing with RC-prep, the average Protaper rotary file failure rate was estimated more than the Medin and Race rotary files. Also, the results of the study showed that there is no significant difference in the failure time of failing rotary files of Medin with washing of hypochlorite and RC-prep; but there was a significant difference in the time of failure of the Protaper and Race rotary files.

Conclusion: Based on the results of this study, the failure time of Protaper Rotary files by RC-prep washes and RaCe Rotary files are minimized by washing the hypochlorite. However, there was no difference in the failure of Medin rotary files when washing with hypochlorite and RC-prep.

Keywords: Rotary Files, Protaper, Medin, Race, cyclic fatigue.